

**REPRODUCTIVE HEALTH & SEX EDUCATION**

Programme	B.Sc. Zoology			
Type of Course	MDC			
Semester	I			
Academic Level	100-199			
Course Details	Credits	Lecture per week	Practical per week	Total hours
	3	3	0	45
Pre-requisites	+2/VHSC Course; Equivalent Online courses			
Course objectives	The course is designed to develop awareness in the need of sex education sexual hygiene, causes of infertility problems, different ARTs, prenatal diagnostic techniques, fertility control methods etc.			

CO	CO statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Describe the rationale and background in terms of reproductive rights, problems and strategies, different ethical aspects in sex; different sexual orientations, perversions, paraphilias, abuses and myths with awareness on legal aspects			
CO2	Explain the anatomy and physiology of male and female reproductive system and associated structures, production of gametes, female reproductive cycle, events of fertilization, implantation, gestation, parturition & lactation, role of hormones, importance of placenta			
CO3	Recognize the causes and problems in male and female infertility; different infertility management techniques- steps & pros and cons, test tube babies, surrogacy			
CO4	Analyze different prenatal diagnostic techniques- procedure and advantages and disadvantages of each, female feticide and legal implications; Evaluate different fertility control methods, termination of pregnancy			
CO5	Explain the importance of sex education, various fertility control methods and important sexually transmitted diseases			
CO6	Manage to conduct awareness programmes on the need of sex education			
* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)				

*Question paper pattern for external examination: **Module 1** : short answer 3 x 2= 6marks, Paragraph 2 x 6 = 12marks ; **Module 2** : short answer 1 x 2= 2 marks, paragraph 2 x 6 = 12 marks, Essay 1 x 10 = 10 marks; **Module 3** : short answer 4 x 2= 8marks, paragraph 1 x 6 = 6marks; **Module 4** : short answer 2 x 2= 4 marks, Essay 1 x 10 = 10 marks*

**Module 1. Introduction, Ethical aspects, Sexual orientation, abuse & myths (9hours)**

**Unit 1- Introduction (2 hours)**

Definition; Reproductive health- problems and strategies; reproductive rights; importance of sex education for teen and youth- adolescence and senescence, adolescent sexual activity, teenage pregnancy

**Unit 2- Ethical aspects of sex (2 hours)**

Healthy relationship with opposite sex; role of counseling; gender discrimination; sexual consent; sexual hygiene

**Unit 3- Sexual orientation, sexual abuse and myths (5 hrs)**

Homosexuality and bisexuality (mention LGBT); sexual identity- transgender; oral sex; animal sex; cyber sex; sexual abuse and harassment; premarital and extramarital sex; sexual perversions; paraphilia; child abuse; prostitution; sexual awareness and policies- legal aspects, protection of children from sexual offences (POCSO) Act 2012 (brief account only); sexual myths.

**Module 2. Sex determination, Human reproduction (13 hours)**

**Unit 1- Sex determination (3 hours)**

Mechanism of sex determination- chromosomal, environmental and hormonal; Barr body; sex mosaicism; sex reversal; Sex chromosomal anomalies: Turner's syndrome and Klinefelter's syndrome (mention only).

**Unit 2- Human reproduction (10 hours)**

Male reproductive system: Structure of testis, male accessory organs; Semen production and composition; ejaculation; spermatogenesis (mention the role of hormones)

Female reproductive system: Structure of human ovary; development of primary follicle; structure of graafian follicle; fallopian tubes; uterus; external genitalia; mammary glands; oogenesis.

Menstrual cycle and hormonal control; brief account of fertilization, implantation, pregnancy, gestation, placenta, parturition and lactation (Brief account on hormonal control of parturition and lactation)

**Module 3. Infertility and Assisted reproductive techniques (8 hrs)**

Infertility: Causes and problems in male and female; Infertility management: collection, preservation and storage of semen and ova, artificial insemination; Cryopreservation and embryo transfer: Collection, care and preservation of embryos; In vitro fertilization (IVF) and embryo transfer: Major steps; Test tube babies; Assisted Reproductive Techniques (ART): GIFT, ZIFT, ICSI, oocyte donation and embryo donation; surrogacy

**Module 4. Prenatal Diagnosis, Fertility control and Sexually transmitted diseases (7 hrs)**

**Unit 1- Prenatal diagnosis (2 hours)**

Different methods: Ultrasonography, amniocentesis, chorionic villus sampling and alpha-fetoprotein estimation; female foeticide: ethical issues and laws (Mention PNDT Act)

**Unit 2- Fertility control (3 hours)**

Natural methods; artificial methods; chemical methods; hormonal methods; contraceptive devices; surgical contraception; abortion, legal termination of pregnancy (brief account).

**Unit 3- Sexually transmitted diseases (2 hours)**

Symptoms, mode of transmission, diagnosis, treatment and prophylaxis of AIDS, syphilis, gonorrhoea, herpes (genital), human papilloma virus and genital warts, hepatitis, gonococcal vulvo vaginitis, Trichomonal vaginitis (short account for each). Mention the term venereal disease. Socio economic dimensions of STD

**Module 5. Open ended (8 hours)**

Design student activities like assignments, seminars, collection of notes/reference materials related to the topics of module 1, organizing mass education programmes by the students for the school students and general public of their locality through offline or online modes etc.

## REFERENCES

- Brian Walker Nicki R Colledge Stuart Ralston and Ian Penman (2014): *Davidson's Principles and Practice of Medicine*, 22nd edition; eBook ISBN: 9780702052248, Elsevier
- John Hall (2015): *Textbook of Medical Physiology*; 13th Edition, ISBN: 9781455770052, Elsevier Health, 1168 pages
- Lynn L. Long, Judith A. Burnett, R. Valorie Thomas (2005): *Sexuality counseling an integrated approach*, 1<sup>st</sup> Edition, ISBN-10: 0131710524, Pearson
- Mac E. Hadley (2000) *Endocrinology* 5<sup>th</sup> edition, illustrated, ISBN 0130803561, 9780130803566, Prentice Hall, University o Minnesota, 585 pages.
- Prakash Kothari (1995): *Common sexual problems and solutions*, 2nd Edition, ISBN-10: 8185674086, UBS Publ. and Distributors Ltd., 173 pages
- Reisman, Judith A, Eichel, Edward W, Muir, J Gordon and Court, J H (John Hugh) (2001): *Kinsey, sex, and fraud: the indoctrination of a people: an investigation into the human Sexuality research*, ISBN 10: 091031120X, Lochinvar-Huntington House
- Robert T. Francoeur (1982): *Becoming a sexual person*, ISBN-10: 0471078484, John Wiley and Sons, 836 pages
- Taylor, D.J., Green, N.P.O., Stout G. W. (2005) *Biological Science*. (Editor R. Soper) 3rd Edition, Cambridge University Press.
- Vander, Sherman and Luciano (2003): *Human Physiology*, 9th Edition, ISBN-10: 9780072437935, McGraw Hill, 864 pages
- <http://www.biologydiscussion.com/essay/reproductive-health-in-human-problemsand-strategies/5167>
- <http://stayteen.org/sex-ed/article/why-sex-education-important>
- <http://www.onlymyhealth.com/importance-sex-education-among-youth-1301382451>
- <http://www.livestrong.com/article/246343-how-to-make-friends-with-the-oppositesex/>
- <http://stories.plancanada.ca/gender-discrimination-starts-at-home/>

**Mapping of COs with PSOs and POs :**